February 1998

Inside ▸

INFORMATION

Information Management and Computing at the University of Virginia Health Sciences Center Volume 4, Number 6

Customized Data Delivered to Your Desktop: The Ins and Outs of Push Technology

Features

▶ Sophisticated Media Services p.6

▶ Document ordering made easy p.7

Have you ever tried to stay current in a specific area of interest only to find that you spend more time searching for information than actually synthesizing and using the information? If you are consistently mining the Web in search of relevant information, the experience is not only frustrating but can be a time-consuming task. A new set of technologies collectively referred to as "push" technology (also called Webcasting) may help to alleviate this problem by delivering or "pushing" information directly to the desktop. Although push has received considerable attention over the past year, the concept of pushing information to those who need it is nothing new.

From librarian filter to software filter

Librarians have been "pushing" information out to patrons for years. In the field of library science this delivery of information updates, based upon a patron's consistent need for information, has been referred to as Selective Dissemination of Information or SDI. Prior to our ability to access large volumes of information electronically, the SDI often was accomplished by manually reviewing information sources and "pushing" relevant information out to people who needed it. Information needs were determined during a reference interview from which an information profile was established for the patron making the request.

With so much of our information now searchable and available electronically, the SDI service has in many instances become automated, allowing the information requester to create an information needs profile directly with the information provider or publisher. Many database vendors, such as Dialog, Nexis, and Ovid, offer SDI services that allow users to create a specific search strategy, which is saved and run daily, weekly, or monthly. Although push and SDI services are similar in concept, push technology is more sophisticated in its ability to offer and support a variety of user-defined options for information access, delivery, and presentation.

How does "push" work?

Configuring your PC to receive "pushed" information is relatively easy, often requiring only the download and installation of the push vendor's software from a website (see box p. 3). Exceptions to this include vendors

Continued on page 2

Inside ▶ INFORMATION

University of Virginia
Health Sciences Center

EDITOR
Anne Wood Humphries

PRODUCTION EDITOR
Sarah M. Handley

GRAPHIC ARTIST
Tom Bellucci

EDITORIAL ADVISORS
Sara Arneson, Gretchen Naisawald Arnold, Armando Bolmey, Stephen Borowitz, Bill Detmer, Cheryl Jones, Bill Pearson, Janet Sakell, Steve Stearns, Linda Watson

Inside Information is published 10 times a year for faculty, students, and staff of the University of Virginia Health Sciences Center and other interested individuals. *Inside Information* is supported by the Health Sciences Library and The Office of the Vice President and Provost for Health Sciences.

Please direct comments, questions, or subscription requests to:
Phone: 804-924-0051
TDD: 804-982-HEAR
E-mail: inside.info@virginia.edu
Inside Information is available in electronic format:
URL:
http://www.med.virginia.edu/hs-library/newsletter/

Copyright 1998 by the Rector and Visitors of the University of Virginia

Printed on Recycled Paper

Continued from page 1

that push their services without any software required other than a Web browser and an Internet connection.

All vendors require that the user fill out a profile specifying what types of information are of interest, e.g., stock quotes, weather, sports scores. This profile is actually a filter that can be stored on the client's machine (client-based filter) or on the push vendor's server (server-based filter).

Based on the information profile, a search is run across a variety of Web sites or a collection of content that is pooled and collectively referred to as a channel. Information is filtered based upon the user's pre-defined preferences, and relevant information is retrieved and sent out to the client desktop. The subscriber is then notified via e-mail, animated icon, information ticker tape, or pop-up window that new content has been delivered. Different push vendors offer different options for notification, information format, and access to content once it is identified.

Differences in push vendors

Although vendors differ in the way that they offer their services from a technical standpoint, the major differences between them have more to do with the information services that are made available to the end-user. Vendors may aggregate a group of information sources into a channel, or offer access to individual publishers.

Channels are similar to cable channels in that each has a subject area of focus, e.g., technology, entertainment, education. A news channel may contain Reuters, CNN, and other news sources found on the Web. Channels are great for users who want to broaden their search to include a wide variety of similar resources and don't mind that high retrieval may result in low relevance. The latest trend in push technology is to allow the end-user to develop customized channels, so that specific Web sites are filtered through the individual's own profile.

Notification and access to content

Another key difference among push vendors is user notification and delivery of content. Push vendors generally offer one of three different options for pushing information to the client's desktop:

Notification only: Vendor alerts the subscriber that new content fitting the user's information profile has been found or retrieved in some format. The notification usually is in the form of an e-mail message, which may include a summary of the relevant Web page, or notification that a particular Web site has updated content. Although the notification can be considered "push" technology, the actual information retrieval falls into what is considered traditional "pull" technology where the client must use a browser to download a Web page from server to desktop.

Delivery only: Content is delivered directly to the desktop with no notification. Data is downloaded to the client's PC and can be browsed off-line.

Notification and delivery: The most popular push vendors - PointCast's I-Server, Microsoft Internet Explorer, Netscape's Netcaster, BackWeb's Polite Agent, Marimba's Castanet- all offer options for both notification and delivery of content. Notification runs the spectrum from least intrusive - e-mail - to most intrusive - animated icon or pop-up window. Needless to say, the least popular forms of notification tend to be those that are most interruptive. Access to content is generally offered in several formats that can be defined and often scheduled by the subscriber.

Push problems

The technical problems associated with push technology include information being constantly pushed through the corporate network, which can quickly overwhelm its capacity. On the client side, desktops with a continuous connection to the Internet and information that is constantly being updated in the background can severely impede performance. In addition, most channels are filled with commercial advertising, yet another distraction from the sought-after data.

Although the technical problems associated with push are significant, a larger problem from a conceptual standpoint involves the ability to effectively filter the data that gets pushed to the desktop. Information profiles are essentially search queries or strategies used to filter information from channels and information publishers. These profiles work well for simply queries like wanting to know a sports score or stock quote, but work poorly for complex queries where the user is trying to express and search on a concept, e.g., trends. This is largely due to limits placed on the user when setting up an information profile. For this reason, push technology is better suited for delivering small chunks of information, e.g., news headlines, than it is for information that must be consistently synthesized and digested by the user to make decisions.

Targeting the relevant bytes

Another problem with using information profiles as filters is support of "shelf browsing," or sending the user data in a subject area, but still allowing the serendipity of finding related and relevant information. This type of information seeking is hindered by rigid profiles. Information profiles will need to be much more sophisticated to handle complex, changing information needs if push technology is to go beyond the delivery of small morsels of information.

Positive contributions to the workplace

Push technology is great for individuals who have an immediate, real-time need for bytes of information in their everyday work. The time saving is significant for those who consistently monitor individual Web sites to retrieve information. Push is currently being used in corporate Intranets to push information to employees, such as automatic updating of business manuals, parts inventories, and policies. Businesses that have a national presence can simultaneously update all branches of their company. Multicasting can even be done to specific computers on a network to pinpoint levels of information need. System administrators can automatically upgrade computers on the network to the latest version of a software package. When tied to databases and spreadsheets, managers can automatically be notified when trends in sales and services change. Such practical business applications may eventually be the real impetus for push to be more widely accepted as an essential tool in the technology marketplace. ■

Kim Guenther, Internet/Clinical Information Services Coordinator, klg2n@virginia.edu

Top Push Sites

BackWeb's Polite Agent:	**http://www.backweb.com/**
Marimba's Castanet:	**http://www.marimba.com/products/**
MS Internet Explorer:	**http://www.microsoft.com/ie/press/whitepaper/webcast.htm**
Netscape's Netcaster:	**http://www.netscape.com/comprod/products/communicator/netcaster.html**
PointCast's I-Server:	**http://www.pointcast.com/**

marímba™

February 1998

C A L

MONDAY — TUESDAY — WEDNESDAY

2

Information Warehouse - Intro (ITC)
2:00pm - 4:30pm
Carruthers 248

HTML I: Intro (ALD)
3:00pm - 5:00pm
Alderman Library Classroom

3

E-Forms: Intro Departmental Administrator Training (ITC)
8:30am - 11:00am
Carruthers Conf Rm A

Training of Technical Trainers (ITC)
2/3 & 2/4 & 2/25 & 2/26
8:30am - 4:30pm
Registrar's Conference Room

Web I: Intro to the World Wide Web (ALD)
2:00pm - 3:30pm
Science & Engineering Library Classroom

Scanning: Intro (ALD)
4:00pm - 5:30pm
Alderman Library Electronic Text Center

SPSS for Windows, Macs and UNIX (ITC)
2/3 & 2/10
6:00pm - 8:00pm
Wilson 308

4

Training of Technical Trainers (ITC)
2/3 & 2/4 & 2/25 & 2/26
8:30am - 4:30pm
Registrar's Conference Room

Web II: Searching the World Wide Web (ALD)
2:00pm - 3:30pm
Science & Engineering Library Classroom

File Transfer Protocol (FTP) for Web Page Maintenance (ALD)
3:30pm - 5:00pm
Alderman Library Classroom

9

10

Information Warehouse - Facilities Management and Room Data (ITC)
8:15am - 12:30pm
Carruthers 248

Office Technology Skills Certification Assessment (ITC)
1:00pm - 4:30pm
Carruthers 248

File Transfer Protocol (FTP) for Web Page Maintenance (ALD)
2:00pm - 3:30pm
Science & Engineering Library Classroom

Web II: Searching the World Wide Web (ALD)
3:00pm - 4:30pm
Alderman Library Classroom

SPSS for Windows, Macs and UNIX (ITC)
2/3 & 2/10
6:00pm - 8:00pm
Wilson 308

11

Information Warehouse - Financial Account Summary Data (ITC)
8:15am - 12:30pm
Carruthers 248

HTML IIA: Tables and Frames (ALD)
10:00am - 11:30am
Science & Engineering Library Classroom

Using CARL UnCover (ALD)
1:00pm - 2:30pm
Alderman Library Classroom

Roscoe - Intro (ITC)
2/11 & 2/12
2:00pm - 5:00pm
Carruthers 248

E-Forms: Intro Departmental Custom Training (ITC)
3:00pm - 4:30pm
Carruthers Conf Rm A

HTML IIA: Tables and Frames (ALD)
3:30pm - 5:00pm
Alderman Library Classroom

X-Windows (ITC)
6:00pm - 8:00pm
Wilson 216

16

HomePage Creation on the World Wide Web - PC (ITC)
8:30am - 11:30am
Carruthers 248

Information Warehouse - Intro (ITC)
2:00pm - 4:30pm
Carruthers 248

17

Information Warehouse - Student Data (ITC)
9:00am to 12Noon
Carruthers 248

Web I: Intro to the World Wide Web (ALD)
9:30am - 11:00am
Science & Engineering Library Classroom

Searching MEDLINE: Intro (HSL)
2:00pm - 4:00pm
Health Sciences Library LRC

E-Forms: Intro Departmental Administrator Training (ITC)
2:00pm - 4:30pm
Carruthers Conf Rm A

18

FASNET (ITC)
9:00am - 12Noon
Carruthers 248

Web II: Searching the World Wide Web (ALD)
10:00am - 11:30am
Science & Engineering Library Classroom

Information Warehouse Human Resource Data (ITC)
2:00pm to 4:30pm
Carruthers 248

HomePage Creation on the World Wide Web - Mac (ITC)
5:30pm - 8:30pm
Wilson 216

23

Scanning: Intro (ALD)
4:00pm - 5:30pm
Alderman Library Electronic Text Center

24

E-Forms: Intro Departmental Customer Training (ITC)
8:30am - 10:00am
Carruthers Conf Rm A

AMOPro: Intro (ITC)
2/24 & 2/25 & 2/26
8:30am - 12Noon
Carruthers 248

File Transfer Protocol (FTP) for Web Page Maintenance (ALD)
10:00am - 11:30am
Science & Engineering Library Classroom

Using HTML to Create Web Pages (HSL)
10:00am - 12Noon
Health Sciences Library LRC

Office Technology Skills Certification Assessment (ITC)
1:00pm - 4:30pm
Carruthers 248

25

AMOPro: Intro (ITC)
2/24 & 2/25 & 2/26
8:30am - 12Noon
Carruthers 248

Training of Technical Trainers (ITC)
2/3 & 2/4 & 2/25 & 2/26
8:30am - 4:30pm
Wilson 216

Browsing the World Wide Web using Netscape (HSL)
9:00am - 11:00am
Health Sciences Library LRC

HTML IIA: Tables and Frames (ALD)
2:30pm - 4:00pm
Science & Engineering Library Classroom

Readers Theater Performance & Discussi William Carlos Williams "A Face of Stone"
Todd L. Savitt, PhD, discussion leader
History of the Health Sciences Lecture Series
5:00pm - 6:00pm
Health Sciences Library Moll Room

E N D A R

For a catalog with full course descriptions, see:
http://www.med.virginia.edu/hs-library/newsletter/catalog.html

THURSDAY — FRIDAY

6

HTML I: Intro (ALD)
9:30am - 11:30am
Science & Engineering Library Classroom

Web I: Intro to the World Wide Web (ALD)
11:00am - 12:30pm
Alderman Library Classroom

HomePage Creation on the World Wide Web - PC (ITC)
5:30pm - 8:30pm
Wilson 216

13

Current Contents: Intro (HSL)
9:00am - 11:00am
Health Sciences Library LRC

Roscoe - Intro (ITC)
2/11 & 2/12
2:00pm - 5:00pm
Carruthers 248

HTML IIB: Image Maps (ALD)
2:30pm - 3:30pm
Science & Engineering Library Classroom

HTML IIB: Image Maps (ALD)
4:00pm - 5:00pm
Alderman Library Classroom

20

PowerPoint 4.0: Intro (HSL)
2:00pm - 4:00pm
Health Sciences Library LRC

HTML I: Intro (ALD)
2:30pm - 4:30pm
Science & Engineering Library Classroom

HTML I: Intro (ALD)
9:00am - 11:00am
Alderman Library Classroom

Image Editing with Photoshop (ALD)
2:00pm - 4:00pm
Digital Image Center, Clemons Library

27

AMOPro: Intro (ITC)
2/24 & 2/25 & 2/26
8:30am - 12Noon
Carruthers 248

Training of Technical Trainers (ITC)
2/3 & 2/4 & 2/25 & 2/26
8:30am - 4:30pm
Wilson 216

HTML IIB: Image Maps (ALD)
9:30am - 10:30am
Science & Engineering Library Classroom

Simeon Demonstration (ITC)
2:00pm - 4:00pm
Carruthers 248

Image Editing with Photoshop (ALD)
2:00pm - 4:00pm
Digital Image Center, Clemons Library

WINDOWS, WORD, EXCEL, ACCESS....

In-depth courses on Windows, administrative systems, and Microsoft Office Programs are available for a fee through ITC's Computer Skills Development workshops.

For a current schedule, please consult their training page at **http://www.itc.virginia.edu/itcweb/help/training/home.html** or call the ITC Training Administrative Assistant at 243-6595.

CLASS SPONSORS AND REGISTRATION

(ACHS) = ITC - Academic Computing Health Sciences
http://www.med.virginia.edu/achs/classes/
achs-train@virginia.edu
982-4025

(ALD) = Alderman Library
http://poe.acc.virginia.edu/~libinstr/courses.html
lib-instruct@virginia.edu
924-7702

(EDU) = Education Library
http://curry.edschool.virginia.edu/curry/resources/library/short/shortcourses.html
cutler@virginia.edu
982-2664

(HSL) = Health Sciences Library
http://www.med.virginia.edu/hs-library/info_serv/classes.html
kkg8n@virginia.edu
924-5521

(ITC) = Information Technology and Communication
http://www.itc.virginia.edu/itcweb/help/training/home.html
itc-train@virginia.edu
243-6595

(MCC) = Medical Center Computing
http://www.mcc.virginia.edu/train.html
rlc3m@virginia.edu
924-8390

Note: *Most sponsoring agencies are glad to accommodate special training needs. Contact the appropriate class sponsor to arrange group inservice or specially scheduled classes.*

Tools of the Trade

From Slides to Video Production - Media Services Does It All

The University of Virginia's Media Production Services and Biomedical Communications (also known as Medical Photography) have merged to coordinate your audio visual support.

Medical Photography

Location:
McKim Hall Courtyard in a temporary three trailer unit

Hours:
8:00am - 5:00pm Monday through Friday
(pick up and delivery service also available)

Telephone:
(804)924-5296

Fax:
(804)924-9102

Media Production Services

Location:
Ground floor University Hospital Room G441
(inside the Department of Clinical Engineering)

Hours:
8:00am - 5:00pm Monday through Friday

Telephone:
(804)924-9100

Medical Photography

Medical Photography is a comprehensive visual support service for the entire Health Sciences Center (HSC) and University Community.

Photography services are provided on a fee-for-service basis for cost recovery. Cost estimates are provided on each project. A detailed price list is available at the Reception desk at the trailers in the McKim Hall Courtyard.

Services include:

Photography Services - slides (including digital), display transparencies, publication prints

Copy Photography - art, book illustrations, blue slides, physiologic tracings, slide duplications, digital slides, radiological films

Small Object Photography - electronic components, glass apparatus, surgical instruments, gross specimens, plates, gels & prosthetic devices

Photography through the Microscope - photomicroscopy/macroscopy: bright field, dark field, contrast & reflected light

Studio Photography - patients, gross specimens, special set-ups, equipment, apparatus, portraiture, application pictures & passport pictures

Location Photography - autopsy, surgery, patients, laboratory, publicity, group pictures, architecture, emergency room (accidents, rape & domestic violence)

Digital Imaging - slides and prints made from computer images: PowerPoint, Photoshop, Harvard Graphics, TIFF and other formats; slide scanning to disk

Media Production Services

In response to the expanding use of video in patient education, staff training, and community health promotion, Media Services offers video production services and audio visual support for the HSC.
Prices are available on their Web page at **http://www.med.Virginia.EDU/medcntr/depts/media/prices.html**.

Services include:

Video recording - throughout the HSC or remote locations; VHS or SVHS format

Tape duplication - 3/4", VHS, or international videotape formats; audio tape duplication

Titling, video and audio editing, digital special effects

Program production - introduction or reinforcement of a health promotion/prevention message

Set-up for conferences and meetings - equipment operators, projectionists and videographers available

In addition to medical photography and media production, Media Services handles audio visual and communication equipment repairs and provides access to the Hospital In-House CCTV (e.g., the Baby Channel and Healthline). For a list of currently available in-house programs, consult their Web page at **http://www.med.Virginia.EDU/medcntr/depts/media/television.html**.

Work orders for medical photography may be found along with other vendors' order forms at the Health Sciences Library's Circulation Desk. Direct questions to Scott Creasy, Director, bsc@virginia.edu, (804) 924-5296.

Help Desk

Order Articles While You Search MEDLINE!

The Health Sciences Library has made Web access to the Ovid system even more convenient by enabling an integrated document ordering feature. When you search for articles in MEDLINE on the Web (**http://ovid.med.virginia.edu/ovidweb/ovidweb.cgi**) you will now see an Order button at the bottom of the citations page within the Citation Manager box. The feature is currently available in MEDLINE and is planned to be available in all Ovid databases.
NOTE: Document ordering is available only to Health Sciences Center affiliates.

How to order

Browse through the citations, marking each one you would like to order with a check mark. After marking your citations, go to the Citation Manager and select the "Order" button under the Action column. You will be asked to complete a form with your name, department, phone number, payment, and delivery preferences.

Citations automatically entered

You will see the citations that you marked during your search automatically entered in the order form, without having to type them in! Simply verify that the list of citations is correct and unmark any citations that you do not want ordered.

What's the charge?

Document orders cost $3 per article, both for photocopy orders from journals that the Health Sciences Library owns, and for interlibrary loan orders for articles obtained from other libraries. You may pay by cash, check, or departmental charge code.

Turnaround time

If you have ordered an article that is from a journal owned by the Library, the turnaround time for photocopies is 2-3 business days. If the article needs to be ordered from another library, the turnaround time is 5-12 days. Rush service is available within 1-2 days, but if obtained from another library that assesses a service charge for rush fax service (usually $3-8), that charge will be added to the $3 base fee. For patient care emergencies, call the document delivery department at 924-0058 and the staff will make every attempt to expedite your request as quickly as possible.

Delivery options

You can specify how you want the documents delivered. You can pick up the articles in the Library at the Circulation Desk or have the articles faxed to a local phone number. Faculty and staff may request delivery of photocopied items to a departmental office at no charge. Interlibrary loans may be delivered to an office for an additional fee of $2 per item delivered.

Questions?

If you need further information about the document ordering service, call the Document Delivery Department at 924-0058, or e-mail hsldoc@virginia.edu.

Ovid document order screen

Double Click

People, events, and news in informatics

The Masters of Science program in Health Evaluation Sciences accepted its first externally-funded student, **Ms. Jane Schubart**, jrw5d@virginia.edu, currently employed as an Assistant to the Associate Executive Director of the Medical Center. Ms. Schubart applied and successfully won funding for a fellowship in applied informatics from the **National Library of Medicine**. This competitive fellowship is awarded to individuals who are "capable of using the knowledge and technology of health informatics to help solve biomedical information management problems." The fellowship, which provides salary replacement as well as tuition support, will allow Ms. Schubart to complete the MS program in Health Evaluation Sciences as a full-time student, while simultaneously carrying out an important demonstration and critical appraisal of the Clinical Data Repository in a pilot site (the UVa Heart Center).

Ms. Schubart was also recently awarded the **Richard P. Covert Scholarship** offered by the Healthcare Information and Management Systems Society (HIMSS). The scholarship, which includes a cash award as well as an expenses-paid trip to the HIMSS annual meeting, is awarded annually to one graduate and one undergraduate student in the areas of Clinical Systems, Information Systems, Management Engineering, or Telecommunications. Other individuals interested in applying for the scholarship may contact Mary Flavin Kaszubowski at the HIMSS at mkaszubowski@himss.org. The application deadline is October 31.

The University of Virginia Health System welcomes **Hal Scott,** hscott@kpmg.com, KPMG Peat Marwick's Healthcare World Class Technology Practice Leader, to direct the preparation of a Request for Proposal (RFP) for the selection of a **computer-based, enterprise-wide integrated healthcare management system**. The Health System has assembled a core team comprising management from both the Medical Center and the Health Services Foundation to develop requirements for inclusion in the RFP document. The RFP should be issued in February 1998. For progress on the Integrated Healthcare Management System Selection project, consult their Web page at **http://www.mcc.virginia.edu/ihims/**.

Health Sciences Library

Circulation.....924-5444
Reference Desk.....924-5591
Learning Resources Center.....924-5521
Administration.....924-5464

Library Hours:
Mon-Thurs.....8am-12am
Friday.....8am- 6pm
Saturday.....8am- 5pm
Sunday.....10am-12am

Medical Center Computing

Help Desk.....924-5334

ITC-Academic Computing Health Sciences

Information.....982-4025

Information Technology & Communication

Help Desk.....924-3731

UNIVERSITY OF VIRGINIA HEALTH SCIENCES CENTER
HEALTH SCIENCES CENTER #234
CHARLOTTESVILLE, VIRGINIA 22908